UNIVERSITI TEKNOLOGI MARA

GENDER CLASSIFICATION BASED ON HUMAN RADIATION FREQUENCIES

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledge as referenced work. This thesis has not been submitted to any other academic institution or non academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

It is commonly known that living organism emits endogenous electromagnetic radiation. These electric and magnetic waves in electromagnetic radiation have certain characteristics such as frequency, wavelength and amplitude. Based on one of these characteristics namely frequency, a research focuses on classification of human gender was conducted. The goal of this research is to classify human gender using human radiation measured in frequency. In this research, the radiation emitted from nine points on human body was measured and analyzed using mean and min-max normalization. The hypothesis of this research which states that the frequencies of male radiation are not equal to the frequencies of female radiation was tested. Next, feature extraction on nine human radiation points was performed using Pearson's, Spearman's and Point Biserial correlation. From these correlations, two groups of points were selected and extracted. The extracted points together with nine points were used in gender classification and classifier validation. The results show that group using Point Biserial correlation achieved higher accuracy compared to group using Pearson's and Spearman's correlation. Hence, human radiation frequencies can be used for gender classification. The outcome from this research can be used in many applications such as biometric recognition, visual surveillance, social networking and etc.

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CHAPTER ONE
INTRODUCTION

1.1 RESEARCH BACKGROUND

Electromagnetic radiation is energy in a wave form and it is related to electric and magnetic field. There are two types of electromagnetic radiation; ionizing and non-ionizing radiation [1]. Both ionizing and non-ionizing radiation have various effect on human body depending on their wavelength [2]. Any biological system that is exposed to electromagnetic wave produces electromagnetic field [3]. Electromagnetic field is defined as combination between electric and magnetic field. Both electric and magnetic field are perpendicular to each other. Electromagnetic field does affect the spiritual quality and physical character of human body [4]. In scientific community, electromagnetic field has positive and negative effects on the human body. Therapeutic approach is considered as positive effect and agent of causing sickness is considered as negative effect [5-7].

Every living organism is believed to emit endogenous non-ionizing electromagnetic radiation. The electromagnetic field related to this radiation is known as bio-field [8]. It is defined as luminous body that surrounds and interpenetrates physical body [8, 9]. This field of energy is also known as aura [9]. Aura has a form of a cocoon. It has many layers and these layers are related to chakra points. Each layer is defined by colors related to character of a person, momentary mind state and physical condition [10]. Chakra is defined as energy points of human body [8, 11-17]. These points absorb and emit radiation wave. They are located along the spine and on the head. The points along the spine are Root, Sacral, Solar Plexus, Heart and Throat. Meanwhile, points on the head are Third Eye, Crown, Bindu and Talu [8, 11-21]. These points are also associated with the endocrine glands [16, 18, 19].

These days, many people have accepted aura and chakra and they have been used in many applications. One of the applications is the alternative medicine. Examples of alternative medicine are bio-field therapy, acupuncture, spiritual acupuncture, yoga and energy medicine [8, 14, 15, 19]. Other than alternative